

Solid Waste & Recycling Curriculum

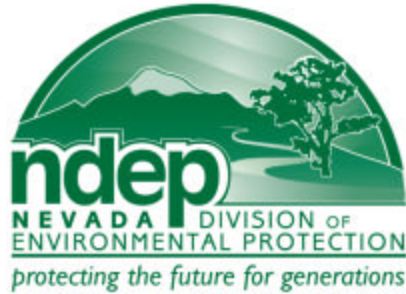
Student Workbook

Student Workbook

Module 1



Solid Waste & Recycling Curriculum



MY GARBAGE

Module 1

MY GARBAGE

An Exploration of Solid Waste

Lesson 1 – **Just a Dream**

*Environmental Intro Using
Van Allsburg's Just A Dream*

Lesson 2 – **It's the Old Style**

Landfill-Municipal Solid Waste

Lesson 3 – **My Landfill is Sanitary**

Landfill-Municipal Solid Waste

Lesson 4 – **How Long Does Trash Last?**

Waste Decomposition

Lesson 5 – **Potato Chip Dilemma**

Reduce

Lesson 6 – **Play It Again, Sam**

Re-use

Lesson 7 – **Warhol Waste**

Art Project/Assessment: Collage

Lesson 8 – **Warhol Waste**

Art Project/Assessment: Collage

Solid Waste and Recycling Curriculum
Lesson 1

Name:_____

Just a Dream

Date:_____

Objectives: I will be able to describe how my actions are related to the world around me.

Discussion questions:

Walter's ideas change over the course of the story.

What does he learn from the dream?

Does his character change?

Describe how technology has had an impact on the story, both good and bad.

Solid Waste and Recycling Curriculum
Lesson 1

Just a Dream

Name:_____

Date:_____

Closure question:

“How do your actions affect the world around you?”

Solid Waste and Recycling Curriculum
Lesson 2

Name:_____

It's the Old Style

Date:_____

Objectives: I will understand the “path” waste takes from consumer to landfill.
I will be able to apply mathematical calculations to determine the amount of waste we produce.
I will understand the basic structure of a landfill.
I will construct a model landfill.

Vocabulary:

Municipal Solid Waste:

Landfill:

Transfer Station:

Per Capita:

Leachate:

Vector:

Groundwater:

Solid Waste and Recycling Curriculum

Lesson 2

Name:_____

It's the Old Style

Date:_____

The Calculations:

How much trash is produced in Nevada per capita each day? _____

How many students are in this class? _____

How many people are in Reno? _____

How many people are in Sparks? _____

Please calculate the waste produced by the students in this class each day.

Please calculate the waste produced by the people in Reno each day.

Please calculate the waste produced by the people in Sparks each day.

Please calculate the waste produced by the people in Reno-Sparks each day.

Please calculate the waste produced by the people in Reno-Sparks each week.

Solid Waste and Recycling Curriculum
Lesson 2

Name:_____

It's the Old Style

Date:_____

Please calculate the waste produced by the people in Reno-Sparks each month

Please calculate the waste produced by the people in Reno-Sparks each year.

Do you think there are adverse effects of landfills?

Solid Waste and Recycling Curriculum
Lesson 2

Name: _____

It's the Old Style

Date: _____

Please draw the layers of the Old Style Landfill.

Homework

On a computer that has access to the internet, please visit <http://www.epa.gov/recyclecity/mainmap.htm>. *Find the landfill within the city. Use the information you gather to answer the following questions.*

1. When Recycle City was called Dumptown, the Old Landfill was used. What was put in the landfill?
2. What happened when poisonous liquids (caused by the trash) seeped into the soil?
3. When Dumptown became Recycle City, how did the government fix the groundwater problem?

Solid Waste and Recycling Curriculum

Name:_____

Lesson 2

It's the Old Style

Date:_____

4. When Recycle City set up the New Landfill, they also set up a Materials Recovery Facility. What does this facility do?

5. Besides the reduction of waste, what is the biggest difference between the Old Landfill and the New Landfill?

6. Please describe each of the five layers in a landfill liner.

7. Is the model landfill that we made in class more like the Recycle City Old Landfill or like the New Landfill?

Solid Waste and Recycling Curriculum

Lesson 2

Name:_____

It's the Old Style

Date:_____

8. Which landfill is better for the environment? Why?

Solid Waste and Recycling Curriculum
Lesson 3

Name:_____

My Landfill is Sanitary

Date:_____

Objectives: I will understand the basic structure of a sanitary landfill.
I will understand the structural difference between the old style and the sanitary landfill.

Vocabulary:

Landfill Liner:

Geotextile Fabric:

Sanitary Landfill:

Please draw the structure of a sanitary landfill:

Solid Waste and Recycling Curriculum
Lesson 3

Name:_____

My Landfill is Sanitary

Date:_____

Sanitary Landfill:

What are the benefits of using a sanitary landfill?

What are your general thoughts on the differences between the sanitary landfill and the old style landfill?

Why is it important to prevent leachate from getting into the groundwater?

Lesson 4**How Long Does Trash Last?**

Date: _____

Objectives: You will discover how long experts think it takes MSW to break down.
 You will create a chart for MSW decomposition times.
 You will review factors involved in MSW breakdown inside a landfill.

Vocabulary:

Decompose:

Reduce:

Reuse:

Recycle:

Biodegrade:

Decomposition List:

Group # _____

List of items	Decomposition time
Aluminum can	
Banana	
Cigarette butt	
Cotton rag	
Glass bottle	
Leather boot	
Paper bag	
Plastic 6-pack rings	
Plastic jug	
Rubber sole of leather boot	
Styrofoam cup	
Tin (steel) can	
Wool sock	

Solid Waste and Recycling Curriculum
Lesson 4

Name: _____

How Long Does Trash Last?

Date: _____

List of items	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Scientist's list
Aluminum can								
Banana								
Cigarette butt								
Cotton rag								
Glass bottle								
Leather boot								
Paper bag								
Plastic 6-pack rings								
Plastic Jug								
Rubber sole of leather boot								
Styrofoam cup								
Tin (steel) can								
Wool sock								

Lesson 4

How Long Does Trash Last?

Solid Waste and Recycling Curriculum
Lesson 5

Name: _____

Potato Chip Dilemma

Date: _____

Objectives: You will understand the importance of reducing waste.
You will recognize how you can reduce waste.

Vocabulary:

Packaging:

Secondary Packaging:

Please answer the following questions:

1. The large bag of chips holds the same amount as the total contents of the smaller bags. But which option produces more waste – the single large bag or the combined smaller bags?
2. For waste management, which is preferable: One large bag or many small ones?
3. Knowing that a single large bag takes up less landfill space than many small ones - why might a shopper choose to buy many small bags instead of one large one?

Solid Waste and Recycling Curriculum
Lesson 5

Name:_____

Potato Chip Dilemma

Date:_____

4. Come up with a scenario in which one large bag would actually create more waste.
(Think outside of the blue box)

5. What does it mean when we create less trash? What can you and your family do to reduce the waste that must be landfilled.

Why should we reduce the amount of waste we produce?

Solid Waste and Recycling Curriculum
Lesson 5

Name:_____

Potato Chip Dilemma

Date:_____

When you are formulating your answer, please think outside the (blue) box. Remember to apply the concepts of Reduce and Reuse. Be prepared to discuss the assignment during the next class period.

Please write or draw your answer. (You do not actually have to bring your lunch for 2 weeks.)

Your assignment is to:

1. Come up with a way to bring your lunch to school every day for two weeks.

Your lunch should include:

- a sandwich**
- chips (or pretzels)**
- a drink**
- a dessert**
- a way to clean yourself up (hands and face)**

2. Generate as little landfill waste as possible.

Solid Waste and Recycling Curriculum
Lesson 5

Name:_____

Potato Chip Dilemma

Date:_____

Solid Waste and Recycling Curriculum
Lesson 6

Name: _____

Play It Again, Sam

Date: _____

Objectives: You will create a brochure for an item you will reuse.
You will understand the importance of reusing materials.

List of items that may be used / reused in your brochure

Please select one of the following:

- Shoe Box
- Flower Pot
- Altoid Tin
- Eyeglass Lens
- Paper Towel Tube
- Newspaper

Write your selection in the space below.

Reuse / transform the item into something that will have a different use.

Write that new “final product” in the space below

Before you begin, take one sheet of printer paper and fold it into 3 equal sections with the left panel flap over / on top.

Write your name on the bottom of page 1. (cover)

Write “What” on the bottom of page 2. (left inside panel)

Write “When” on the bottom of page 3. (center inside panel)

Write “Where” on the bottom of page 4. (right inside panel)

Write “How” on the bottom of page 5. (flap panel)

Write “Why” on the bottom of page 6. (back center panel)

Solid Waste and Recycling Curriculum
Lesson 6

Name: _____

Play It Again, Sam

Date: _____

Page 1. The original item to be transformed into the final product.

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
States item for reuse and final product	No mention of items		States one item	States original item and final product	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	
Includes illustrations	No illustrations	Illustration for one item. No color.	Illustration for original item and final product. No color. OR Illustration for one item. Use of color	Illustration for original item and final product. Use of color	

Page 2. What will my final product be used for?

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
Describe <u>What</u> the final product is used for	Does not state what the product will be used for	Difficulty stating what the final product will be used for. Does not restate question in description.	Clearly states what the final product will be used for. Does not restate question in description. OR Difficulty stating what the final product will be used for. Restates question in description.	Clearly states what the final product will be used for. <u>Restates question in description.</u>	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	
Includes illustrations	No illustrations.	Illustration that does not relate.	Illustration showing what the final product is used for. No use of color.	Illustration <u>showing what the final product is used for.</u> Use of color.	

Lesson 6**Play It Again, Sam**

Date: _____

Page 3. When will my final product be used?

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
Describe <u>When</u> the final product can be used	Does not state when the product will be used.	Difficulty stating when the final product will be used. Does not restate question in description.	Clearly states when the final product will be used. Does not restate question in description. OR Difficulty stating when the final product will be used. Restates question in description.	Clearly states when the final product will be used. <u>Restates question in description.</u>	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	
Includes illustrations	No illustrations.	Illustration that does not relate.	Illustration showing when the final product is used. No use of color.	Illustration <u>showing when the final product is used.</u> Use of color.	

Page 4 Where will my final product be used?

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
Describe <u>Where</u> the final product can be used	Does not state where the product will be used.	Difficulty stating where the final product will be used. Does not restate question in description.	Clearly states where the final product will be used. Does not restate question in description. OR Difficulty stating where the final product will be used. Restates question in description.	Clearly states where the final product will be used. Restates question in description.	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	
Includes illustrations	No illustrations.	Illustration that does not relate.	Illustration showing where the final product is used. No use of color.	Illustration <u>showing where the final product is used.</u> Use of color.	

Solid Waste and Recycling Curriculum
Lesson 6

Name: _____

Play It Again, Sam

Date: _____

Page 5 How will my final product be used?

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
Describe <u>How</u> the final product can be used	Does not state how the product will be used.	Difficulty stating how the final product will be used. Does not restate question in description.	Clearly states how the final product will be used. Does not restate question in description. OR Difficulty stating how the final product will be used. Restates question in description.	Clearly states how the final product will be used. <u>Restates question in description.</u>	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	
Includes illustrations	No illustrations.	Illustration that does not relate.	Illustration showing how the final product is used. No use of color.	Illustration <u>showing how the final product is used.</u> Use of color.	

Page 6 Why my final product is useful?

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3 3	Score Received
Describe <u>Why</u> the final product is important	Does not state why the product is important.	Difficulty stating why the final product is important. Does not restate question in description.	Clearly states why the final product is important. Does not restate question in description. OR Difficulty stating why the final product is important. Restates question in description.	Clearly states why the final product is important. <u>Restates question in description.</u>	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	
Includes illustrations	No illustrations.	Illustration that does not relate.	Illustration showing why the final product is useful. No use of color.	Illustration <u>showing why the final product is useful.</u> Use of color.	

Solid Waste and Recycling Curriculum
Lesson 6

Name: _____

Play It Again, Sam

Date: _____

Re-Use Brochure Rubric Score Sheet

Page 1	Points earned:
Page 2	Points earned:
Page 3	Points earned:
Page 4	Points earned:
Page 5	Points earned:
Page 6	Points earned:

Total points earned:	Total possible: 54	Percent:
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Solid Waste and Recycling Curriculum
Lesson 6

Name:_____

Play It Again, Sam

Date:_____

Solid Waste and Recycling Curriculum
Lesson 7

Name: _____

Warhol Waste

Date: _____

Objectives: You will create a collage titled “An Exploration of Solid Waste”.

Topics to be covered by the collage:

- **Landfills—waste management**
- **Waste Decomposition**
- **Waste Reduction**
- **Waste Re-use**

1. Select one sheet of green 11” X 14” paper.
2. Divide the paper into 4 equal sections.
3. Label each section with one of the four topics listed above. Each section should have a different topic.
4. Find **3** pictures in a magazine that you feel represent or depict some aspect of the topic in some way. Glue / paste these 3 pictures onto the paper in the appropriate section.
5. Label or write about each picture with an explanation as to why you chose the picture, or what it represents about the topic..

Please refer to your notes if you have any questions about the content covered.

Please refer to the rubric if you have any questions about how the collage will be graded.

Solid Waste and Recycling Curriculum
Lesson 7

Name: _____

Warhol Waste

Date: _____

“An Exploration of Solid Waste” Collage Rubric

General appearance and setup

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
Paper divided into 4 equal sections	No division	Paper divided into 2 equal sections	Paper divided into 3 equal sections	Paper divided into 4 equal sections	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	
Each section labeled properly	No labels	1 OR 2 sections labeled properly	3 sections labeled properly	4 sections labeled properly	

Topic: Landfills—waste management

	0	Needs Work 2	Approaching Expectations 4	Meets Expectations 6	Score Received
Appropriate pictures representing topic	Does not contain any appropriate pictures	Contains 1 appropriate picture representing topic.	Contains 2 appropriate pictures representing topic.	Contains 3 appropriate pictures representing topic.	
Pictures labeled as to why the picture was chosen	Does not contain any appropriate explanation.	Contains 1 appropriate explanation.	Contains 2 appropriate explanations.	Contains 3 appropriate explanations.	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	

Solid Waste and Recycling Curriculum
Lesson 7

Name: _____

Warhol Waste

Date: _____

Topic: **Waste Decomposition**

	0	Needs Work 2	Approaching Expectations 4	Meets Expectations 6	Score Received
Appropriate pictures representing topic	Does not contain any appropriate pictures	Contains 1 appropriate picture representing topic.	Contains 2 appropriate pictures representing topic.	Contains 3 appropriate pictures representing topic.	
Pictures labeled as to why the picture was chosen	Does not contain any appropriate explanation.	Contains 1 appropriate explanation.	Contains 2 appropriate explanations.	Contains 3 appropriate explanations.	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	

Topic: **Waste Reduction**

	0	Needs Work 2	Approaching Expectations 4	Meets Expectations 6	Score Received
Appropriate pictures representing topic	Does not contain any appropriate pictures	Contains 1 appropriate pictures representing topic.	Contains 2 appropriate pictures representing topic.	Contains 3 appropriate pictures representing topic.	
Pictures labeled as to why the picture was chosen	Does not contain any appropriate explanation.	Contains 1 appropriate explanation.	Contains 2 appropriate explanations.	Contains 3 appropriate explanations.	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	

Solid Waste and Recycling Curriculum
Lesson 7

Name: _____

Warhol Waste

Date: _____

Topic: **Waste Re-use**

	0	Needs Work 2	Approaching Expectations 4	Meets Expectations 6	Score Received
Appropriate pictures representing topic	Does not contain any appropriate pictures	Contains 1 appropriate picture representing topic.	Contains 2 appropriate pictures representing topic.	Contains 3 appropriate pictures representing topic.	
Pictures labeled as to why the picture was chosen	Does not contain any appropriate explanation.	Contains 1 appropriate explanation.	Contains 2 appropriate explanations.	Contains 3 appropriate explanations.	
Proper use of spelling, grammar, and punctuation.	Contains more than 3 errors	Contains 2-3 errors	Contains 1 error	No errors	

Solid Waste and Recycling Curriculum
Lesson 7

Name: _____

Warhol Waste

Date: _____

“An Exploration of Solid Waste” Collage Rubric
Score Sheet

General appearance and setup	Points earned:
Landfills—waste management	Points earned:
Waste Decomposition	Points earned:
Waste Reduction	Points earned:
Waste Re-use	Points earned:

Total points earned:	Total possible: 81	Percent:
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Solid Waste and Recycling Curriculum

Lesson 7

Warhol Waste

Name:_____

Date:_____

Solid Waste and Recycling Curriculum
Lesson 8

Name: _____

Thoreau Think Piece: Day 2

Date: _____

Objectives: You will finish creating a collage titled “An Exploration of Solid Waste.”

While continuing work on the collage, please refer to the rubric presented in Lesson 7.

Please solve the following puzzles if you have completed your collage.

Recycling Vocab Search

G M K O H V K L O E K F S C I
R S Y C V D L H G S A C N H B
R R F S P I T C W O I E E Z W
M E J O F R O S S P E C E P U
Q Q T D K M E N F M E H R G D
F T N A P E W G G O T A G I U
F A Q O W O C R D C W F B B O
L S S P R D T U U E A O L J Q
S T Z B L E N G D D V R R S R
V H E G Q A M U H E C E M M G
M W N D C M S N O A R C B P S
R E U S E V Z T L R U Y G A N
L E A C H A T E I L G C S P Q
B G M M U Q Q D R C M L U E Z
I E X H R O S R O T C E V R W

BROWNS
COMPOST
DECOMPOSE
GREENS
GROUNDWATER
LANDFILL
LEACHATE
PAPER
PLASTIC
RECYCLE
REDUCE
REUSE
VECTOR
WORMS

Solid Waste and Recycling Curriculum
Lesson 8

Name: _____

Thoreau Think Piece: Day 2

Date: _____

Recycle Cryptogram

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

7 19 16 9 9 20 11 2 11 13 17 11 26 10 21 15 10 9 11 9

Recycle tiles

N E R	D F I	I T A	S T E	R Y	L L S	S A N	M
L A N	U S	E A	L I	S Y			

Unscramble the tiles to reveal a message.

Student Workbook

Module 2



Solid Waste & Recycling Curriculum



It's Organic, Man!

Module 2

It's Organic, Man!

Recycling at Home

Lesson 9 – **Breakin' it Down**

Waste Characterization/Composting

Lesson 10 – **My Carrots Are Green**

Composting

Lesson 11 – **The Worms Ate My Homework**

Vermicomposting

Lesson 12 – **It's My Paper, and I Like It**

Papermaking

Lesson 13 – **Thoreau Think Piece**

Writing Assessment: RAFT

Lesson 14 – **Thoreau Think Piece**

Writing Assessment: RAFT

Solid Waste and Recycling Curriculum
Lesson 9

Name:_____

Breakin' It Down!

Date:_____

Objectives: I will understand that studies have been conducted to determine what makes up municipal solid waste.
I will be able to identify which of the categories of MSW generated can be recycled.
I will be able to identify what types of materials can be composted and what cannot.
I will recognize that for efficient composting, there must be a balance of materials.

Vocabulary:

Municipal Solid Waste:

Waste Characterization Study:

Environmental Protection Agency:

Organic Compounds:

Decompose:

Biodegrade:

Compost:

Solid Waste and Recycling Curriculum
Lesson 9

Name:_____

Breakin' It Down!

Date:_____

Waste Characterization:

Chart:

Material	Weight Generated (millions of tons PER YEAR)	Percent of Total Waste
TOTAL		100

Please draw a pie chart representing the information in the Waste Characterization table.

Pie Chart:

Which of the categories above can be composted?

Solid Waste and Recycling Curriculum
Lesson 9

Name:_____

Breakin' It Down!

Date:_____

List some items that can be composted.

List some items that cannot be composted.

Solid Waste and Recycling Curriculum
Lesson 9

Name:_____

Breakin' It Down!

Date:_____

Write the formula for next session's compost column.

Solid Waste and Recycling Curriculum
Lesson 9

Name:_____

Breakin' It Down!

Date:_____

Solid Waste and Recycling Curriculum
Lesson 10

Name:_____

My Carrots Are Green

Date:_____

Objectives: I will compare and contrast “browns” and “greens.”
I will discover the importance of air, water, organic matter, and “nature’s helpers”
in composting.
I will construct a compost column.

Vocabulary:

Organic Matter:

Greens:

Browns:

Nature’s Helpers:

Composting:

Why is air important in composting?

Why is water important in composting?

Why is organic matter important in composting?

Green material contains lots of Nitrogen. Name some items that would be considered “greens.”

Brown material contains lots of Carbon. Name some items that would be considered “browns.”

“Nature’s Helpers” help with the decomposition process. Name some items that would be considered “Nature’s Helpers.”

Compare and contrast “browns” and “greens.”

Solid Waste and Recycling Curriculum
Lesson 10

Name:_____

My Carrots Are Green

Date:_____

Formula:

2 1/2 cups bagged salad
1/2 cup dried leaves
1/2 cup pencil shavings
1 cup shredded paper
1 cup water
1 cup soil

1 TBL compost starter

List the green material in the formula.

List the brown materials in the formula.

List the “Nature’s Helpers” in the formula.

List the organic materials in the formula.

Lesson 11

The Worms Ate My Homework **Date:**_____

Objectives: I will be able to draw connections between standard composting and vermicomposting.
I will explore the anatomy of red wigglers.

Vocabulary

Vermicomposting:

Red Wigglers:

Anterior

Posterior

Clitellum

Segments

The anterior (head end) of the Red Wiggler is narrower than the posterior (tail end).

What color is the anterior?

What color is the posterior?

Lesson 11

The Worms Ate My Homework Date:_____

The clitellum is the swollen section of the worm that is responsible for reproduction.

If your worm does not have a visible clitellum, see if your shoulder partner's worm has one.

Which end is the clitellum closer to?

Red Wigglers are made up of many rings called segments.

Compare your worm to your neighbor's.

Which worm has more segments?

Lightly touch the worm's anterior.

What does it do?

Lesson 11

The Worms Ate My Homework **Date:**_____

Lightly touch the worm's posterior.

What does it do?

How does the worm feel to you when you touch it?

When the worm moves forward, does it move head first or tail first?

Lesson 11

The Worms Ate My Homework **Date:**_____

Put some bedding material near the worm. Watch the worm for 1- 2 minutes.

Describe the worm's activity.

Solid Waste and Recycling Curriculum
Lesson 12

Name:_____

Its My Paper, And I Like It

Date:_____

Objectives: I will construct recycled paper from old newspapers.

Papermaking

Please describe, as best you can, the process that we used to make new paper (recycle) from old newspaper.

Solid Waste and Recycling Curriculum
Lesson 13

Name:_____

Thoreau Think Piece

Date:_____

Objectives: You will write a RAFT paper to show mastery of the concepts presented from previous lessons.

Topics to be covered by the RAFT:

- **Compost**
- **Vermicompost**
- **Paper Making**

RAFT

Role: Who are you as a writer?
Audience: Who are you writing to?
Format: What form will write in?
Topic: What is the subject of the writing?

Please select one of the following options:

Role: Piece of recycled paper Audience: Yourself Format: Diary Entry / Entries Topic: Describe how you were remade from old newspapers	Role: Compost pile Audience: Micro-organisms Format: Full page magazine advertisement Topic: Try to convince micro-organisms that a compost pile is a great place for a vacation
Role: A Red Wiggler Audience: A pen-pal Format: A friendly letter Topic: All about me	

Solid Waste and Recycling Curriculum
Lesson 13

Name: _____

Thoreau Think Piece

Date: _____

Please refer to your notes if you have any questions about the content covered.

Please refer to the rubric if you have any questions about how the RAFT will be graded.

Thoreau Think Piece-- RAFT Rubric

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
Role: How well did you interpret the character's voice you were writing in?	The author was never in character.	The author stayed in character for some of the piece.	The author stayed in character for most of the piece.	The author stayed in character for the entire piece.	
Format: Did you follow the format that corresponds to the role?	The author does not follow the writing form assigned			The author follows the writing form assigned.	
Audience: How well did you acknowledge the group or person you were writing for?	The audience is not acknowledged.	The audience was acknowledged in one place.	The audience is acknowledged in two separate places.	The audience is acknowledged in at least three separate places.	

Solid Waste and Recycling Curriculum
Lesson 13

Name: _____

Thoreau Think Piece

Date: _____

Thoreau Think Piece-- RAFT Rubric

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3	Score Received
Vocabulary: Did you use subject (topic) appropriate vocabulary?	The author does not use any vocabulary words.	The author uses one vocabulary word.	The author uses two vocabulary words.	The author uses at least three vocabulary words.	
Topic: How well did you prove that you learned about the topic?	The author does not include any facts.	The author includes at least two facts.	The author includes at least three facts.	The author includes at least four facts.	
Proper use of spelling, grammar, and punctuation.	The writer makes more than 4 errors in grammar or spelling.	The writer makes 3-4 errors in grammar or spelling.	The writer makes 1-2 errors in grammar and spelling.	Writer makes no errors in grammar or spelling.	

Solid Waste and Recycling Curriculum
Lesson 13

Name: _____

Thoreau Think Piece

Date: _____

Thoreau Think Piece-- RAFT Rubric

Role	Points earned:
Format	Points earned:
Audience	Points earned:
Vocabulary	Points earned:
Topic	Points earned:
Spelling	Points earned:

Total points earned:	Total possible: 18	Percent:
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Solid Waste and Recycling Curriculum
Lesson 14

Name: _____

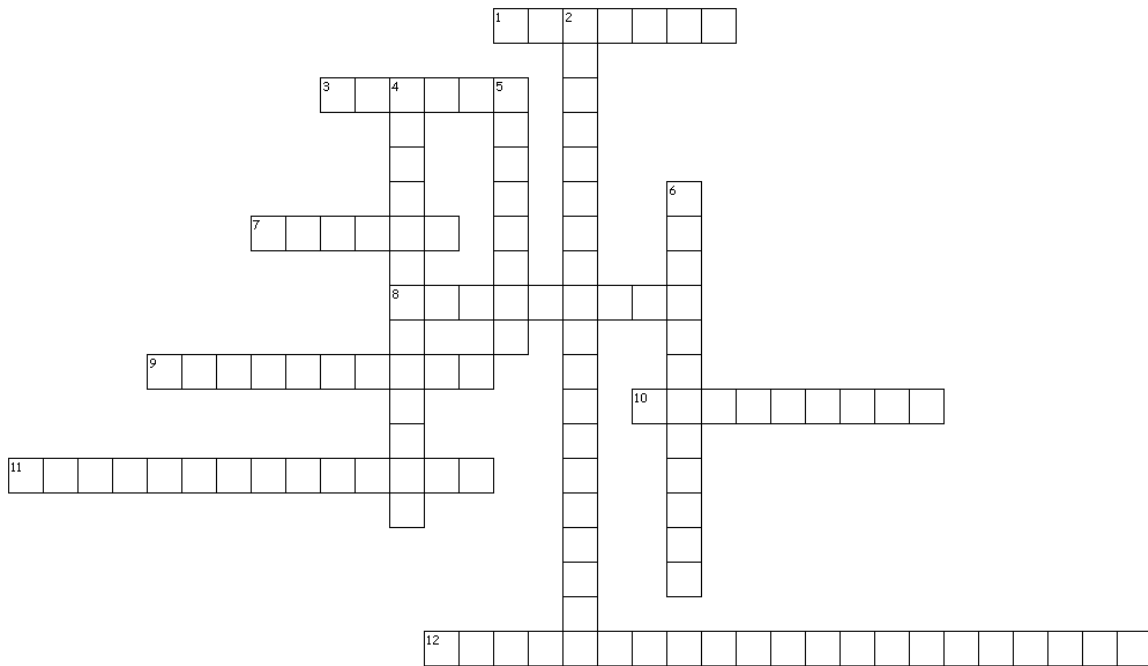
Thoreau Think Piece: Day 2

Date: _____

Objectives: You will finish creating your RAFT paper.

While continuing work on the RAFT, please refer to the rubric presented in Lesson 13.

Please solve the following puzzles if you have completed your RAFT paper.



Lesson 14

Thoreau Think Piece: Day 2

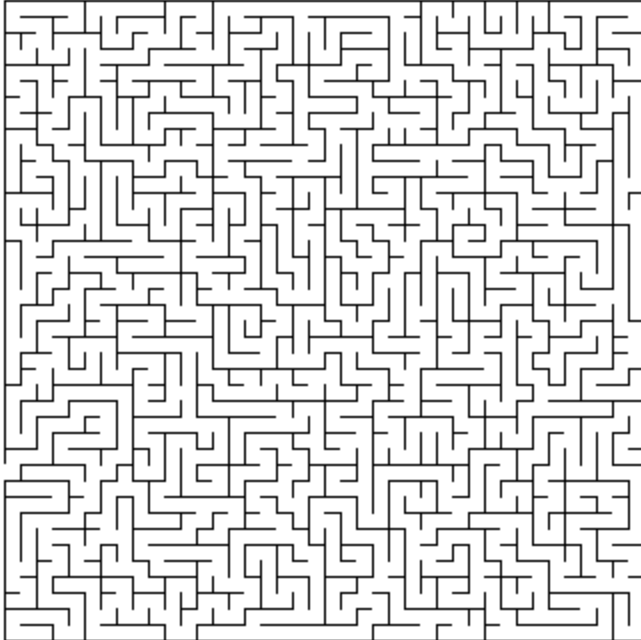
Date:_____

Across

1. the result of the process of decomposition of organic material
3. woody material
7. organic matter that has been freshly cut
8. the swollen section of a worm
9. materials breaking down through the use of microorganisms
10. the back end
11. help break down organic matter in a compost pile
12. study to find out the types and volume of our MSW

Down

2. trash generated by people and industry
4. food in the decomposition process
5. the rings that contract and expand during movement
6. composting with worms



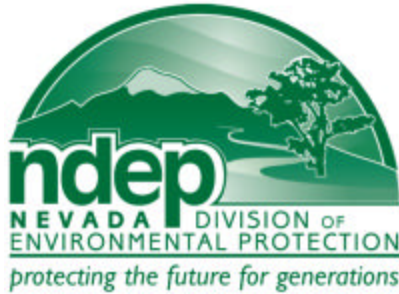
Created by [Puzzlemaker](#) at [DiscoveryEducation.com](#)

Student Workbook

Module 3



Solid Waste & Recycling Curriculum



Module 3

Industrial Strength

Heavy Duty Recycling

Industrial Strength

Lesson 15 – **Pulp Non-Fiction**
Industrial Paper Recycling

Lesson 16 – **Solid Steel**
Aluminum and Steel Recycling

Lesson 17 – **Recycle, For PETE's Sake**
Plastic Recycling

Lesson 18 – **2800 Degrees Fahrenheit**
Glass Recycling
(and Mercury exposure)

Lesson 19 – **Socrates Static**
Oral Assessment: Debate

Lesson 20 – **Socrates Static**
Oral Assessment: Debate

Solid Waste and Recycling Curriculum
Lesson 15

Name:_____

Pulp Non-Fiction

Date:_____

Objectives: I will define key vocabulary.
I will summarize and present the paper recycling process to the class.

Vocabulary

Pulp:

De-inking:

Floatation:

Refining:

Virgin Fiber:

Solid Waste and Recycling Curriculum
Lesson 15

Name: _____

Pulp Non-Fiction

Date: _____

Group 1

The following material is quoted directly from EarthAnswers_Recycle.pdf. The text was generated by TAPPI and can be found by following the link below:

http://www.tappi.org/paperu/all_about_paper/earth_answers/earthAnswers.htm

Sorting

Successful recycling requires clean recovered paper, so you must keep your paper free from contaminants, such as food, plastic, metal, and other trash, which make paper difficult to recycle. Contaminated paper which cannot be recycled must be composted, burned for energy, or landfilled.

Recycling centers usually ask that you sort your paper by grade, or type of paper. Your local recycling center can tell you how to sort paper for recycling in your community. To locate your nearest dealer, look in the yellow pages of your phone book under "waste paper" or "recycling."

Collection and Transportation

You may take your sorted paper to a local recycling center or recycling bin. Often, a paper stock dealer or recycling center will collect recovered paper from your home or office. Your local dealer can tell you the options available in your community.

At the recycling center, the collected paper is wrapped in tight bales and transported to a paper mill, where it will be recycled into new paper.

Group 2

The following material is quoted directly from EarthAnswers_Recycle.pdf. The text was generated by TAPPI and can be found by following the link below:

http://www.tappi.org/paperu/all_about_paper/earth_answers/earthAnswers.htm

Storage

Paper mill workers unload the recovered paper and put it into warehouses, where it is stored until needed. The various paper grades, such as newspapers and corrugated boxes, are kept separate, because the paper mill uses different grades of recovered paper to make different types of recycled paper products.

When the paper mill is ready to use the paper, forklifts move the paper from the warehouse to large conveyors.

Re-pulping and Screening

The paper moves by conveyor to a big vat called a pulper, which contains water and chemicals. The pulper chops the recovered paper into small pieces. Heating the mixture breaks the paper down more quickly into tiny strands of cellulose (organic plant material) called fibers. Eventually, the old paper turns into a mushy mixture called pulp.

The pulp is forced through screens containing holes and slots of various shapes and sizes. The screens remove small contaminants such as bits of plastic and globs of glue. This process is called screening.

Group 3

The following material is quoted directly from EarthAnswers_Recycle.pdf. The text was generated by TAPPI and can be found by following the link below:

http://www.tappi.org/paperu/all_about_paper/earth_answers/earthAnswers.htm

Cleaning

Mills also clean pulp by spinning it around in large cone-shaped cylinders. Heavy contaminants like staples are thrown to the outside of the cone and fall through the bottom of the cylinder. Lighter contaminants collect in the center of the cone and are removed. This process is called cleaning.

Deinking

Sometimes the pulp must undergo a "pulp laundering" operation called deinking (de-inking) to remove printing ink and "stickies" (sticky materials like glue residue and adhesives). Papermakers often use a combination of two deinking processes. Small particles of ink are rinsed from the pulp with water in a process called washing. Larger particles and stickies are removed with air bubbles in another process called flotation. During flotation deinking, pulp is fed into a large vat called a flotation cell, where air and soap-like chemicals called surfactants are injected into the pulp. The surfactants cause ink and stickies to loosen from the pulp and stick to the air bubbles as they float to the top of the mixture. The inky air bubbles create foam or froth which is removed from the top, leaving the clean pulp behind.

Group 4

The following material is quoted directly from EarthAnswers_Recycle.pdf. The text was generated by TAPPI and can be found by following the link below:

http://www.tappi.org/paperu/all_about_paper/earth_answers/earthAnswers.htm

Refining, Bleaching and Color Stripping

During refining, the pulp is beaten to make the recycled fibers swell, making them ideal for papermaking. If the pulp contains any large bundles of fibers, refining separates them into individual fibers. If the recovered paper is colored, color stripping chemicals remove the dyes from the paper.

Then, if white recycled paper is being made, the pulp may need to be bleached with hydrogen peroxide, chlorine dioxide, or oxygen to make it whiter and brighter. If brown recycled paper is being made, such as that used for industrial paper towels, the pulp does not need to be bleached.

Papermaking

Now the clean pulp is ready to be made into paper. The recycled fiber can be used alone, or blended with new wood fiber (called virgin fiber) to give it extra strength or smoothness.

The pulp is mixed with water and chemicals to make it 99.5% water. This watery pulp mixture enters the headbox, a giant metal box at the beginning of the paper machine, and then is sprayed in a continuous wide jet onto a huge flat wire screen which is moving very quickly through the paper machine.

Group 5

The following material is quoted directly from EarthAnswers_Recycle.pdf. The text was generated by TAPPI and can be found by following the following link:
http://www.tappi.org/paperu/all_about_paper/earth_answers/earthAnswers.htm

Papermaking (cont.)

On the screen, water starts to drain from the pulp, and the recycled fibers quickly begin to bond together to form a watery sheet. The sheet moves rapidly through a series of felt-covered press rollers which squeeze out more water.

The sheet, which now resembles paper, passes through a series of heated metal rollers which dry the paper. If coated paper is being made, a coating mixture can be applied near the end of the process, or in a separate process after the papermaking is completed. coating gives paper a smooth, glossy surface for printing.

Finally, the finished paper is wound into a giant roll and removed from the paper machine. One roll can be as wide as 30 feet and weigh as much as 20 tons! The roll of paper is cut into smaller rolls, or sometimes into sheets, before being shipped to a converting plant where it will be printed or made into products such as envelopes, paper bags, or boxes.

Group 6

The following material is quoted directly from EarthAnswers_Recycle.pdf. The text was generated by TAPPI and can be found by following the link below:

http://www.tappi.org/paperu/all_about_paper/earth_answers/earthAnswers.htm

Can all of my recovered paper be recycled?

As much as 80% of the content of typical recovered paper can actually be used in the recycling process, but 20% cannot. A lot of what's contained in a bale of recovered "paper" isn't paper! Trash, such as wire, staples, paper clips, and plastic, must be removed during pulping, cleaning, and screening. This trash is usually sent to a landfill, just like your trash at home.

Recovered paper contains some fibers which have become too small to be recycled into paper. Your recovered paper may contain fibers which already have been recycled one [sic], twice, or perhaps several times! Wood fibers can only be recycled five to seven times before they become too short and brittle to be made into new paper.

Recovered paper contains many other ingredients which are not paper fibers. Just take a look at a magazine and you'll see what we mean. The printed pages contain lots of ink. If the pages are shiny, that portably [sic] means they are coated with clay or other materials. Magazines also contain adhesives which bind the pages together. Ink, coatings, and adhesives must be removed from the paper before recycled paper can be produced.

Group 7

The following material is quoted directly from EarthAnswers_Recycle.pdf. The text was generated by TAPPI and can be found by following the following link:
http://www.tappi.org/paperu/all_about_paper/earth_answers/earthAnswers.htm

What can be made from recovered paper?

Most recovered paper is recycled back into paper and paperboard products. With a few exceptions, recovered paper is generally recycled into a grade similar to, or of lower quality than, the grade of the original product. For example, old corrugated boxes are used to make new recycled corrugated boxes. Recovered printing and writing paper can be used to make new recycled copy paper.

Recovered paper can be used in a variety of other products as well. Recycled pulp can be molded into egg cartons and fruit trays. Recovered paper can be used for fuel, ceiling and wall insulation, paint filler, and roofing. Nearly 100,000 tons of shredded paper is used each year for animal bedding. Even cat litter can be made from recovered paper!

Solid Waste and Recycling Curriculum
Lesson 16

Name: _____

Solid Steel

Date: _____

Objectives: I will able to identify aluminum and steel cans.
I will know how to recycle cans in Northern Nevada.
I will compose a poem, song, or other performance piece about metal cans.

<u>Aluminum</u>	<u>Tin (99% Steel)</u>

Solid Waste and Recycling Curriculum
Lesson 16

Name:_____

Solid Steel

Date:_____

Performance Piece

Please write draft of your performance piece here.

Solid Waste and Recycling Curriculum
Lesson 17

Name: _____

Recycle, For PETE's Sake

Date: _____

Objectives: I will know there are different types of plastic.
I will complete a chart containing the characteristics of different plastics.
I will answer questions about plastic based on their completed chart.

1. There are 2 types of plastic that are picked up by the curbside recycling program in Northern Nevada. What are they? (You can give their resin code or the scientific name).

2. There is another location, besides curbside, to take these two plastics for recycling. What is it called?

3. Plastic 2, HDPE, is also commonly used to make grocery bags. Where can you take grocery bags for recycling?

4. What type of plastic is used to make ice scrapers?

5. Is this plastic recyclable in Northern Nevada?

6. Which plastic is recycled into insulation?




7. List one of the products made with recycled plastic 7.

8. List 3 properties of plastic 4, LDPE.

Lesson 17

Recycle, For PETE's Sake




Date: _____

Recycling in Northern Nevada			
Recycled Products			
Examples			
Properties			
Scientific Name			
Resin Code			

Lesson 17

Recycle, For PETE's Sake




Date: _____

Recycling in Northern Nevada			
Recycled Products			
Examples			
Properties			
Scientific Name			
Resin Code			

Lesson 17

Recycle, For PETE's Sake

Date: _____

Recycling in Northern Nevada			
Recycled Products			
Examples			
Properties			
Scientific Name			
Resin Code			

Solid Waste and Recycling Curriculum
Lesson 18

Name:_____

2800 Degrees Fahrenheit

Date:_____

Objectives: I will examine facts about glass recycling.
I will be exposed to facts about proper mercury disposal.
I will translate text into test questions.

Please write 2 test questions and answers from page M3-68.

1.

2.

GLASS Clear Facts

Glass containers are an environmentally superior packaging—nontoxic, high value, and completely recyclable.

100% recyclable

- Glass can be recycled again and again with no loss in quality or purity. Glass containers go from recycling bin to store shelf in as little as 30 days—again and again.
- In 2005, glass made up 5.2% of the municipal solid waste stream by weight, and of that, 25.3% of glass containers were recycled.
-

The environmental choice

- Made from domestically plentiful, nontoxic raw materials—silica, sand, soda ash, limestone and up to 70% recycled glass—glass is one of the safest packaging materials.
- And, recycling glass reduces consumption of raw materials, extends the life of plant equipment, such as furnaces, and saves energy.
-

Superior, light-weight packaging

Today's glass containers are also more than 40% lighter than they were 20 years ago.

This document was taken directly from
<http://www.gpi.org/recycling/faq/>

Please write 2 test questions and answers from page M3-70.

1.

2.

Q. HOW ARE GLASS BOTTLES AND JARS MADE?

A. Glass is made from readily-available domestic materials, such as sand, soda ash, limestone and “cullet,” the industry term for furnace-ready scrap glass. The only material used in greater volumes than cullet is sand. These materials are mixed, or “batched,” heated to a temperature of 2600 to 2800 degrees Fahrenheit and molded into the desired shape.

Q. HOW DOES RECYCLING FIT INTO THE MANUFACTURING PROCESS?

A. Recycled glass is substituted for up to 70% of raw materials. Manufacturers benefit from recycling in several ways—it reduces emissions and consumption of raw materials, extends the life of plant equipment, such as furnaces, and saves energy.

Q. WHY IS MORE RECYCLED CONTAINER GLASS NEEDED?

A. Because glass manufacturers require high-quality recycled container glass to meet market demands for new glass containers. Cullet is always part of the recipe for glass, and the more that is used, the greater the decrease in energy used in the furnace. This makes using cullet profitable in the long run, lowering costs for glass container manufacturers—and benefiting the environment.

This document was taken directly from
<http://www.gpi.org/recycling/faq/>

Please write 2 test questions and answers from page M3-72.

1.

2.

Q. WHAT TYPES OF GLASS CAN BE RECYCLED? WHAT ARE THE INDUSTRY STANDARDS FOR CULLET?

A. Glass containers, such as those for food and beverages, can be recycled. Other types of glass, like windows, ovenware, Pyrex, crystal, etc. are manufactured through a different process. If these materials are introduced into the manufacturing process, they can cause production problems and defective containers.

Furnace-ready cullet must also be free of contaminants such as metals, ceramics, gravel, stones, etc. Color sorting makes a difference, too. Glass manufacturers are limited in the amount of mixed cullet they can use to manufacture new containers. Separating recycled container glass by color allows the industry to ensure that new bottles match the color standards required by glass container customers.

Q. IS THERE A WAY TO REUSE GLASS THAT CONTAINER MANUFACTURERS CAN'T ACCEPT?

A. Cullet that doesn't meet container manufacturing standards and non-container glass are used in tile, filtration, sand blasting, concrete pavements and parking lots, decorative items, and fiber glass.

This document was taken directly from
<http://www.gpi.org/recycling/faq/>

Please write 2 test questions and answers from page M3-74.

1.

2.

Solid Waste and Recycling Curriculum
Lesson 18

Name: _____

2800 Degrees Fahrenheit

Date: _____

Mercury is a metal. It is the only metal that is liquid at room temperature.

Mercury can be absorbed through the skin.

Because mercury can become a gas at room temperature, you must also be careful not to breathe in the mercury gas.

**How to Handle a Small
Mercury Spill**

Tell a responsible adult.

Do not play with it.

Open windows and doors that vent to the outdoors.

Immediately remove children from the area.

If unsure of what to do at anytime during the spill call the NDEP Spill Reporting Hotline at 888-331-6637.

For all other mercury disposal concerns contact the Recycling Hotline at 1-800-597-5865

Ever wonder where the term "mad as a hatter" came from?

Mercury, was once used in the hat making process. It caused a brain illness in many hatters. Mercury removed fur from pelts to turn it into felt more easily. Hat makers began to experience its effects on their nervous systems. Doctors even recorded seeing "holes the size of quarters" inside some hatters' brains.

Information taken directly from Nevada Division of Environmental Protection's informational brochure about mercury.

Please write 2 test questions and answers from page M3-76.

1.

2.

Mercury Containing Products

Batteries

Certain alkaline batteries prior to 1998
Button batteries

Measuring Devices

Thermometers
Thermostats
Barometers
Manometers
Certain switches

Lighting

Fluorescent lamps
Mercury vapor lamps
High-pressure sodium lamps
Metal halide lamps & neon lamps
Strobe lights.

Dental Amalgam

Mercury is used in dental fillings because it is durable, inexpensive and able to bond with some metals.
Alternative fillings are made of gold, porcelain, ceramic or plastics.

Historical Uses

Certain pigments of latex and oil-based paints pre 1991
Pesticides / fungicides
Felt hat manufacturing

Information taken directly from Nevada Division of Environmental Protection's informational brochure about mercury.

Notes from discussion with partner.

Any new questions?

Solid Waste and Recycling Curriculum

Lesson 18

2800 Degrees Fahrenheit

Name:_____

Date:_____

Solid Waste and Recycling Curriculum
Lesson 19

Name: _____

Socrates Static

Date: _____

Objectives: I will participate in an academic debate.
 I will work in groups to prepare for the debate.
 I will review and use information presented in this class.

Socrates Static-- Debate Rubric

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3
Respect for Other Team	Statements, responses and/or body language were consistently not respectful.	Most statements and responses were respectful and in appropriate language, but there was one sarcastic remark.	Statements and responses were respectful and used appropriate language, but once or twice body language was not.	All statements, body language, and responses were respectful and were in appropriate language.
Information	Information had several inaccuracies OR was usually not clear.	Most information presented in the debate was clear and accurate, but was not usually thorough.	Most information presented in the debate was clear, accurate and thorough.	All information presented in the debate was clear, accurate and thorough.
Rebuttal	Counter-arguments were not accurate and/or relevant	Most counter-arguments were accurate and relevant, but several were weak.	Most counter-arguments were accurate, relevant, and strong.	All counter-arguments were accurate, relevant and strong.

Socrates Static -- Debate Rubric

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3
Use of Facts/Statistics	Every point was not supported.	Every major point was supported with facts, statistics and/or examples, but the relevance of some points were questionable.	Every major point was adequately supported with relevant facts, statistics and/or examples.	Every major point was well supported with several relevant facts, statistics and/or examples.
Presentation Style	One or more members of the team had a presentation style that did not keep the attention of the audience.	Team sometimes used gestures, eye contact, tone of voice and a level of enthusiasm in a way that kept the attention of the audience.	Team usually used gestures, eye contact, tone of voice and a level of enthusiasm in a way that kept the attention of the audience.	Team consistently used gestures, eye contact, tone of voice and a level of enthusiasm in a way that kept the attention of the audience.
Organization	Arguments were not clearly tied to an idea (premise).	All arguments were clearly tied to an idea (premise) but the organization was sometimes not clear or logical.	Most arguments were clearly tied to an idea (premise) and organized in a tight, logical fashion.	All arguments were clearly tied to an idea (premise) and organized in a tight, logical fashion.
Understanding of Topic	The team did not show an adequate understanding of the topic.	The team seemed to understand the main points of the topic and presented those with ease.	The team clearly understood the topic in-depth and presented their information with ease.	The team clearly understood the topic in-depth and presented their information forcefully and convincingly.

Solid Waste and Recycling Curriculum
Lesson 19

Name:_____

Socrates Static

Date:_____

Topic

I want to start a recycling program at your school. There are some people that agree with me and some who say a recycling program is a waste of time.

Team A:

Argue that a recycle program is a good idea. Include reasons why we should start one and how we might set up a program. Use facts that you have learned from this class.

Team B:

Argue that a recycle program is a waste of time and resources. Include reasons why a recycle program not be set up at your school. Use facts and opinions based on what you have learned from this class.

Solid Waste and Recycling Curriculum
Lesson 19

Name:_____

Socrates Static

Date:_____

Initial Arguments

Solid Waste and Recycling Curriculum

Lesson 19

Socrates Static

Name:_____

Date:_____

Counter-argument

Solid Waste and Recycling Curriculum
Lesson 19

Name: _____

Socrates Static

Date: _____

Socrates Static -- Debate Rubric

Team Score

	SCORE
Respect for Other Team	
Information	
Rebuttal	
Use of Facts/Statistics	
Presentation Style	
Organization	
Understanding of Topic	

Total points earned:	Total possible: 21	Percent:
----------------------	------------------------------	----------

Solid Waste and Recycling Curriculum
Lesson 20

Name: _____

Socrates Static: Day 2

Date: _____

Objectives: I will participate in an academic debate.
 I will work in groups to prepare for the debate.
 I will review and use information presented in this class.

Socrates Static-- Debate Rubric

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3
Respect for Other Team	Statements, responses and/or body language were consistently not respectful.	Most statements and responses were respectful and in appropriate language, but there was one sarcastic remark.	Statements and responses were respectful and used appropriate language, but once or twice body language was not.	All statements, body language, and responses were respectful and were in appropriate language.
Information	Information had several inaccuracies OR was usually not clear.	Most information presented in the debate was clear and accurate, but was not usually thorough.	Most information presented in the debate was clear, accurate and thorough.	All information presented in the debate was clear, accurate and thorough.
Rebuttal	Counter-arguments were not accurate and/or relevant	Most counter-arguments were accurate and relevant, but several were weak.	Most counter-arguments were accurate, relevant, and strong.	All counter-arguments were accurate, relevant and strong.

Socrates Static-- Debate Rubric

	0	Needs Work 1	Approaching Expectations 2	Meets Expectations 3
Use of Facts/Statistics	Every point was not supported.	Every major point was supported with facts, statistics and/or examples, but the relevance of some points were questionable.	Every major point was adequately supported with relevant facts, statistics and/or examples.	Every major point was well supported with several relevant facts, statistics and/or examples.
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Organization	Arguments were not clearly tied to an idea (premise).	All arguments were clearly tied to an idea (premise) but the organization was sometimes not clear or logical.	Most arguments were clearly tied to an idea (premise) and organized in a tight, logical fashion.	All arguments were clearly tied to an idea (premise) and organized in a tight, logical fashion.
Understanding of Topic	The team did not show an adequate understanding of the topic.	The team seemed to understand the main points of the topic and presented those with ease.	The team clearly understood the topic in-depth and presented their information with ease.	The team clearly understood the topic in-depth and presented their information forcefully and convincingly.

Topic

I want to start a recycling program at your school. There are some people that agree with me and some who say a recycling program is a waste of time.

Team A:

Argue that a recycle program is a waste of time and resources. Include reasons why a recycle program not be set up at your school. Use facts and opinions based on what you have learned from this class.

Team B:

Argue that a recycle program is a good idea. Include reasons why we should start one and how we might set up a program. Use facts that you have learned from this class.

Solid Waste and Recycling Curriculum

Lesson 20

Name:_____

Socrates Static: Day 2

Date:_____

Initial Arguments

Solid Waste and Recycling Curriculum

Lesson 20

Name:_____

Socrates Static: Day 2

Date:_____

Counter-argument

Solid Waste and Recycling Curriculum
Lesson 20

Name: _____

Socrates Static: Day 2

Date: _____

Socrates Static-- Debate Rubric

Team Score

	SCORE
Respect for Other Team	
Information	
Rebuttal	
Use of Facts/Statistics	
Presentation Style	
Organization	
Understanding of Topic	

Total points earned:	Total possible: 21	Percent:
----------------------	------------------------------	----------